

| Notice of Allowability | Application No. | Applicant(s) |
|-------------------------------|---------------------------|------------------|
| | 10/664,075 | MOON, SEUNG-HWAN |
| | Examiner Rodney Amadiz | Art Unit 2629 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to Applicant's Remarks mailed September 9, 2006.
2. The allowed claim(s) is/are 1-15.
3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. Notice of References Cited (PTO-892)
2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. Notice of Informal Patent Application
6. Interview Summary (PTO-413),
Paper No./Mail Date 11/16/06.
7. Examiner's Amendment/Comment
8. Examiner's Statement of Reasons for Allowance
9. Other _____.

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Tom Chen on November 16, 2006.

The application has been amended as follows:

The end of Claim 1 has been amended to include the equation limitation of Claim 4; therefore, the end of claim 1 has been amended to recite the following (Please enter the following amendment after the last sentence of Claim 1, whereby the comma will replace the period):

— wherein

$$\frac{V_{on1} + V_{const}}{2} - \frac{V_{on1} + V_{const}}{2} \times 10\% \leq V_{on2} \leq \frac{V_{on1} + V_{const}}{2} + \frac{V_{on1} + V_{const}}{2} \times 10\% ,$$

where Von1 indicates a first level and Von2 indicates a second level, and Vconst indicates a predetermined voltage level.—

Allowable Subject Matter

2. Claims 1-15 are allowed.

3. The following is an examiner's statement of reasons for allowance: As to Claims 1 and 4, the Yanagi et al. reference and the Kawaguchi et al. reference were used to teach a liquid crystal panel including a gate drive and data driver wherein the data driver selects gray voltages corresponding to gray signals and wherein the gate signal includes a gate-on voltage having at least two different levels wherein one of the at least two different levels of the gate-on voltage corresponded to a gray.

However, as to Claims 1 and 4, the above-cited references have failed to teach or suggest, either alone or in combination the following limitation:

$$\frac{V_{on1} + V_{const}}{2} - \frac{V_{on1} + V_{const}}{2} \times 10\% \leq V_{on2} \leq \frac{V_{on1} + V_{const}}{2} + \frac{V_{on1} + V_{const}}{2} \times 10\% ,$$

where Von1 indicates a first level and Von2 indicates a second level, and Vconst indicates a predetermined voltage level.—

As to Claim 14, the above-cited references have failed to teach or suggest, either alone or in combination the following limitation: "wherein the voltage divider comprises a first resistor and a second resistor connected in series between the first voltage and a ground and is connected to a base of the PNP generator and

$$\frac{V_{be2}}{V_n} \leq \frac{I}{I + \left(\frac{R_2}{R_1} \right)} < \frac{V_{be2} + (V_{high} - V_{low})}{V_n}$$

where R1 and R2 are resistance of the first and second resistors, respectively, Vbe2 is a base emitter voltage of the PNP transistor, Vn is a value of the first voltage, and Vhigh and Vlow are high and low levels of the pulse signal of the signal controller, respectively."

As to Claim 15, please refer to the Office Action mailed July 5, 2006 for reasons of allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney Amadiz whose telephone number is (571) 272-7762. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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11/16/06
Division 2629

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